MISSISSIPPI MAKEOVER

A Plan for Restoration, Just Around the Bend

National Park Service
Mississippi River Forum
May 15, 2009

Mississippi Makeover

Project Description

- Local effort to *envision* and plan for ecological restoration in Spring Lake, Lower Vermillion River, and Pool 3
- Part of larger Lake Pepin TMDL implementation plan

A Plan for Restoration, Just Around the Bend

Mississippi Makeover

Project Partners

Dakota County

Dakota County Soil and Water Conservation District

MN Pollution Control Agency

MN Department of Natural Resources

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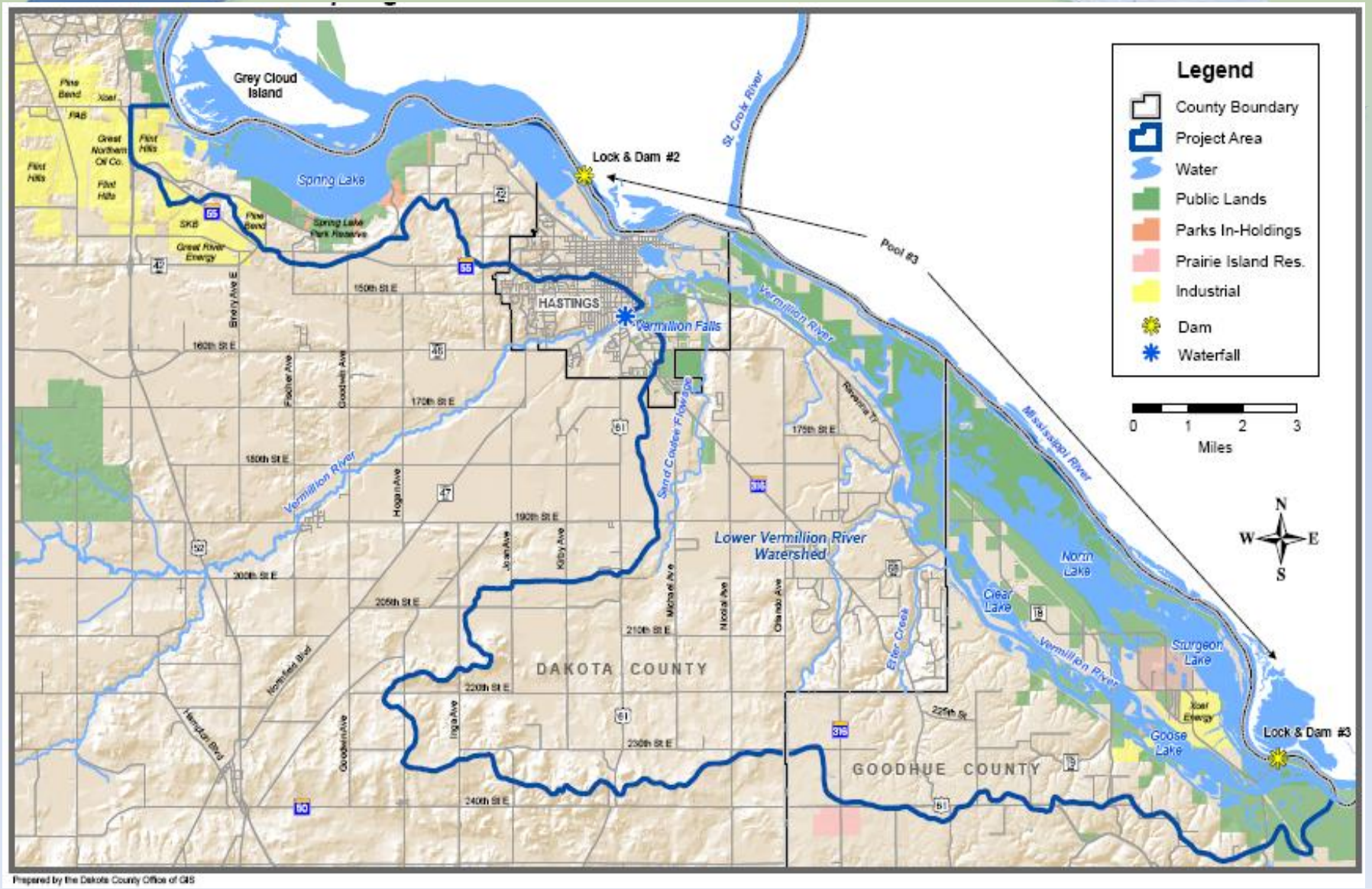
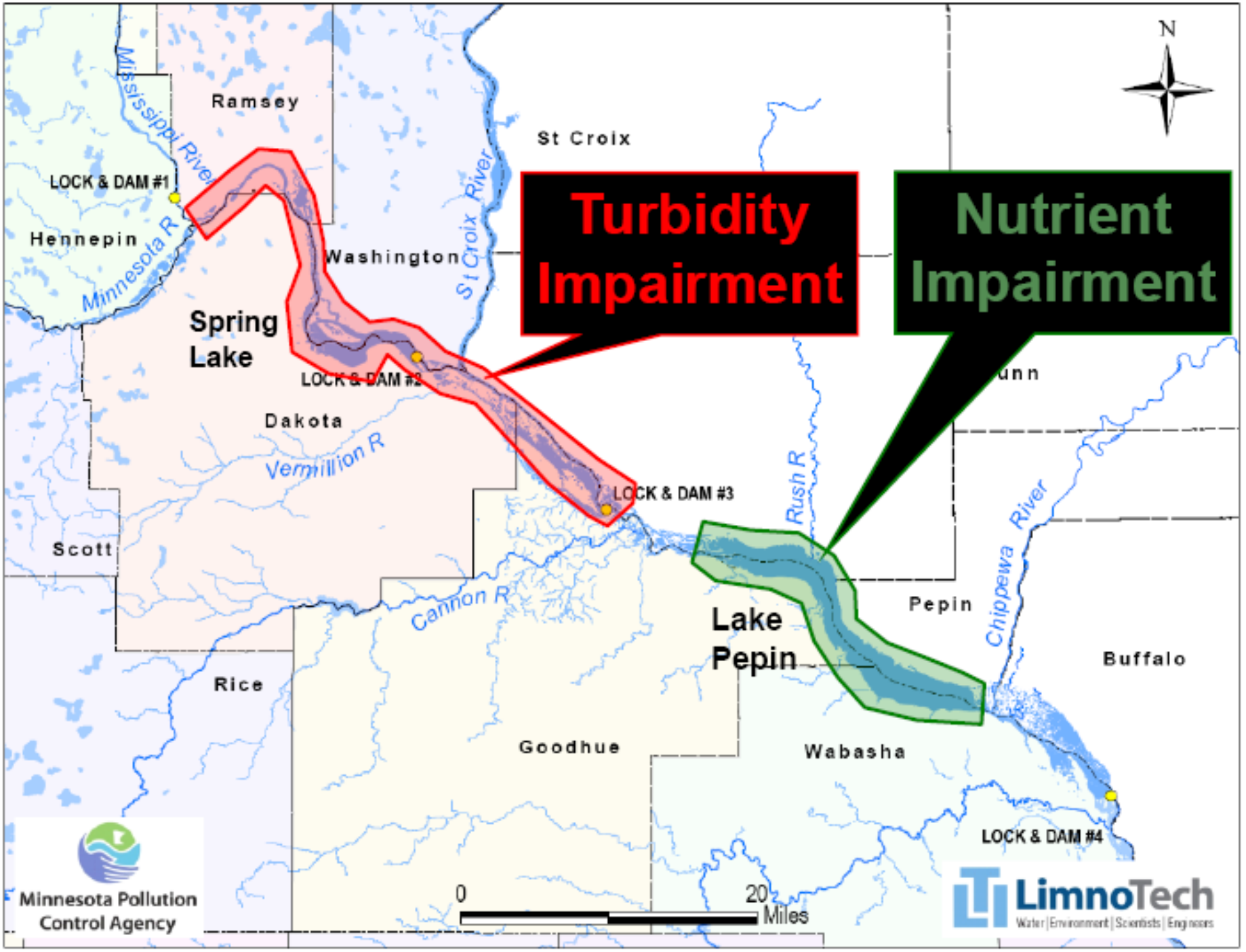
Project Area




Turbidity Impairment
Nutrient Impairment
N
Ramsey
St Croix
Mississippi River
LOCK & DAM #1
Hennepin
Minnesota R
Washington
St Croix River
Spring Lake
LOCK & DAM #2
Dakota
Vermillion R
LOCK & DAM #3
Rush R
Scott
Cannon R
Lake Pepin
Pepin
Chippewa River
Buffalo
Rice
Goodhue
Wabasha
LOCK & DAM #4
0
20
Miles
Minnesota Pollution Control Agency
LimnoTech
Water | Environment | Scientists | Engineers

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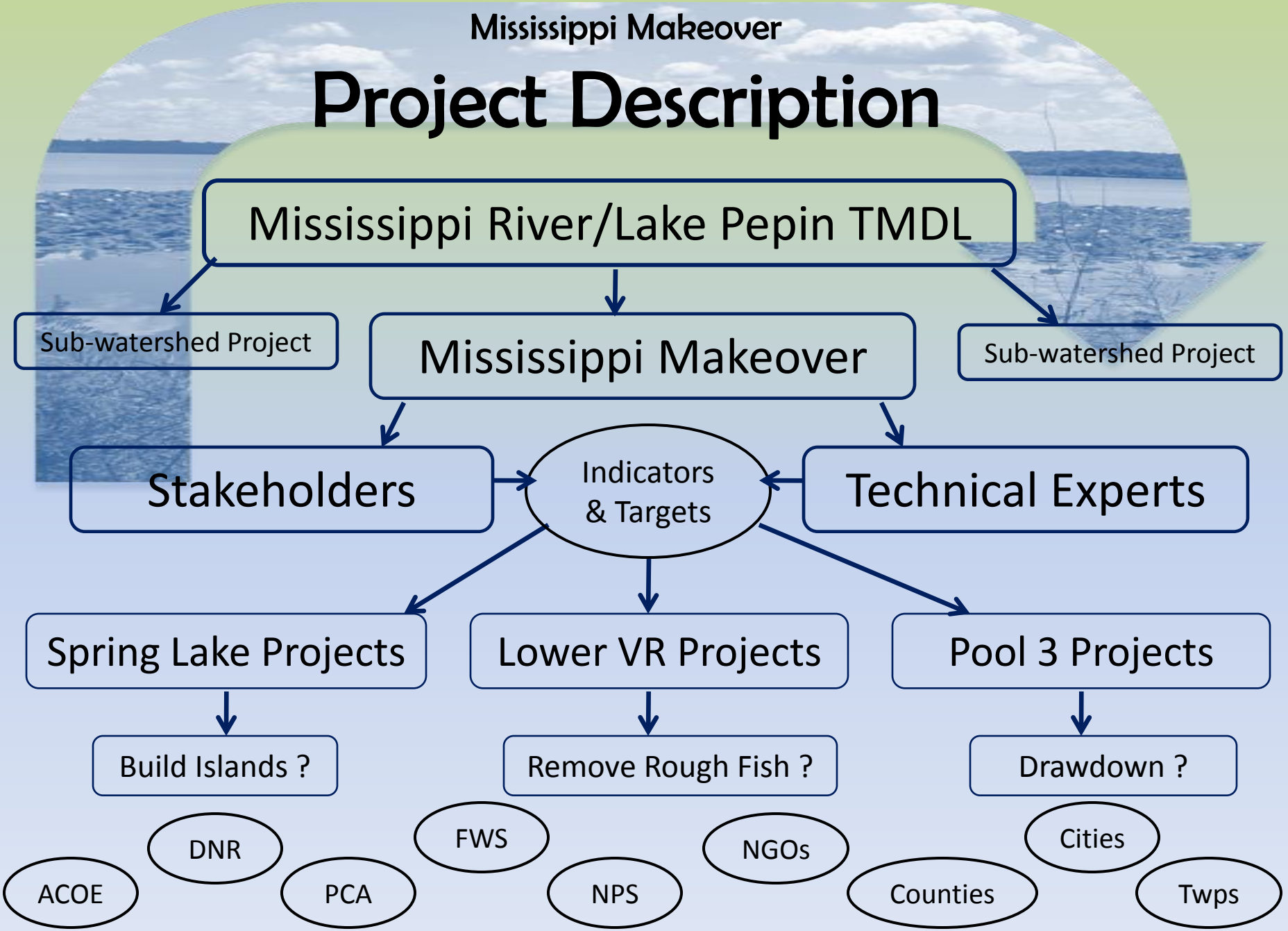
Project Description



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Project Goals

- A healthy and restored ecosystem
  - Improved water quality
  - Abundant wildlife
  - Recreational opportunities
  - Economic vitality

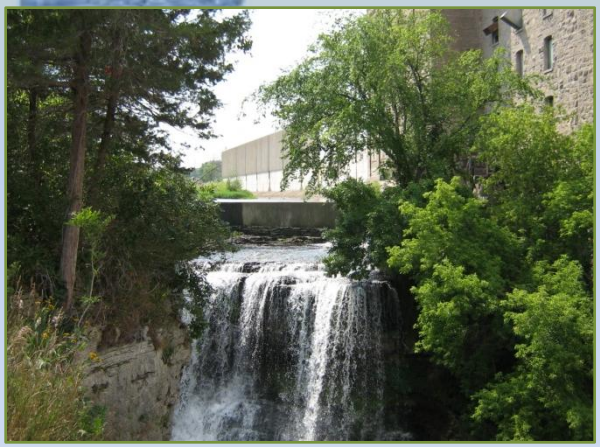
- Congruent and complimentary projects among agencies
- A comprehensive plan for implementation of TMDL in these areas

Spring Lake

- Shallow floodplain lake within Pool 2
- Adjacent to main shipping channel
- Approximately 1,500 acres with mean depth of 4.3 feet
- Pre-settlement floodplain forest and marsh
- Dominated by planktonic algae; very little submerged or emergent vegetation

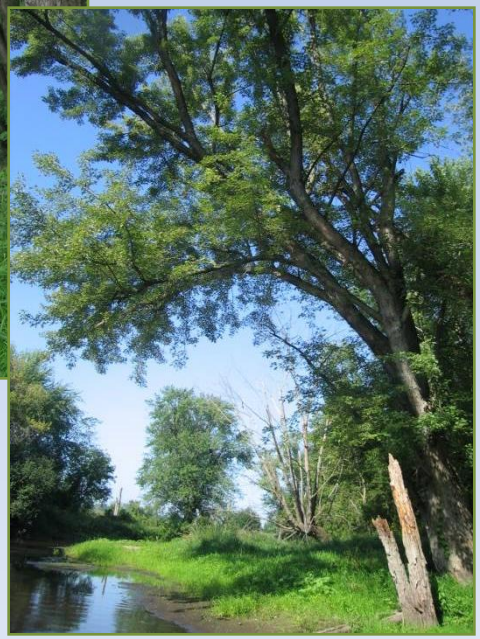
Lower Vermillion River

- Downstream section of Vermillion River



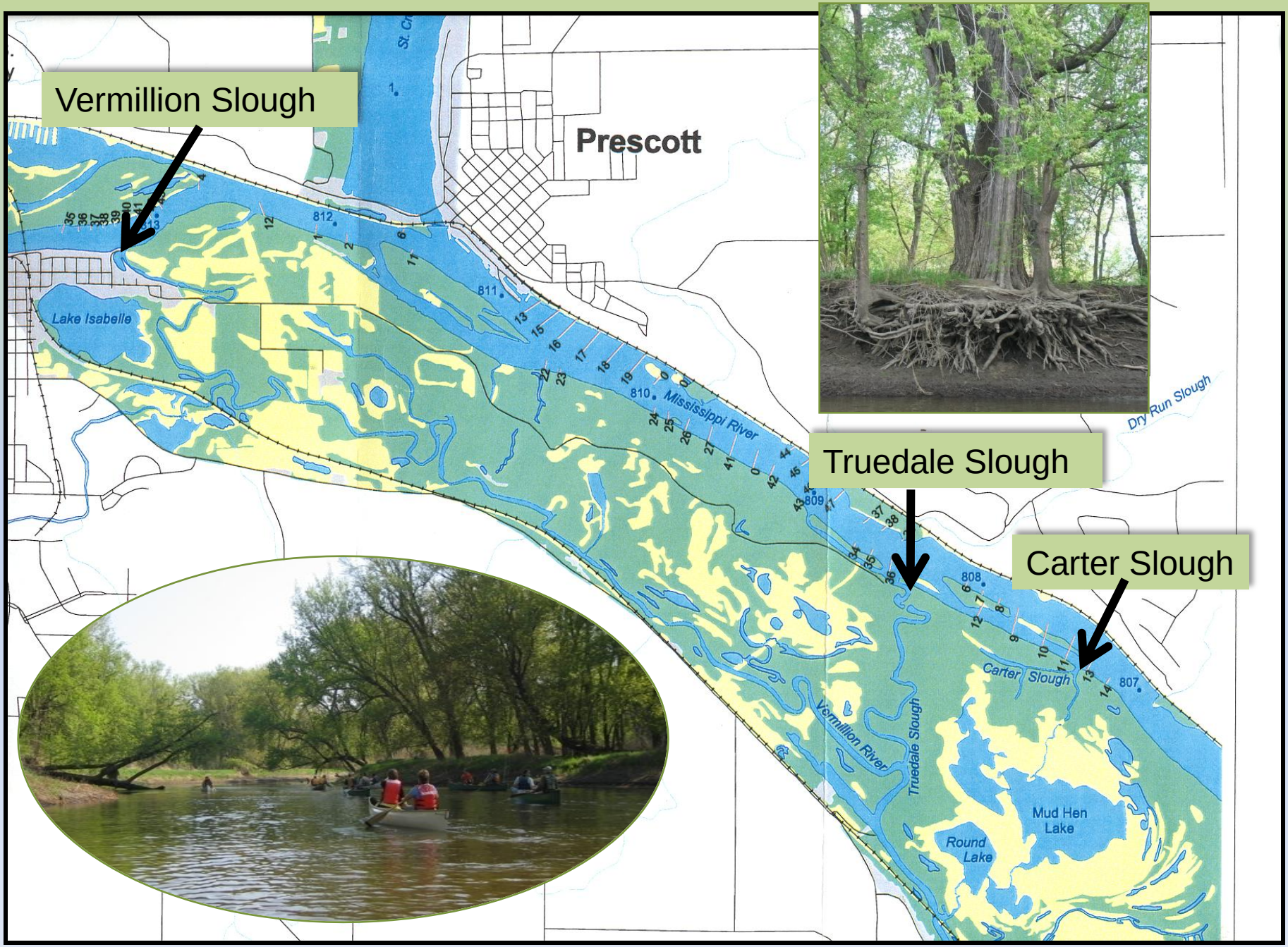
Lower Vermillion River

- Large forested floodplain
- Many large lakes between Vermillion and Mississippi



Lower Vermillion River

- Dominated by Mississippi R. during high water through dikes and sloughs


Vermillion Slough
Prescott
Lake Isabelle
Mississippi River
Dry Run Slough
Truedale Slough
Carter Slough
Vermillion River
Truedale Slough
Carter Slough
Mud Hen Lake
Round Lake
812
811
810
809
808
807

Mississippi River Pool 3

- Confluence with St. Croix
- Xcel Energy Nuclear Plant
- Prairie Island Indian Community
- Marinas

Project Tasks

1. Identify and convene local stakeholders to envision and develop indicators of successful restoration

Citizen Advisory Group meetings:
- December 2008
- April 2009

Citizen Advisory Group members:
- Local citizens
- State and local officials
- Industry
- Organizations

Selecting indicators based on river science

High turbidity, poor vegetation

Use water level management to expose sediment

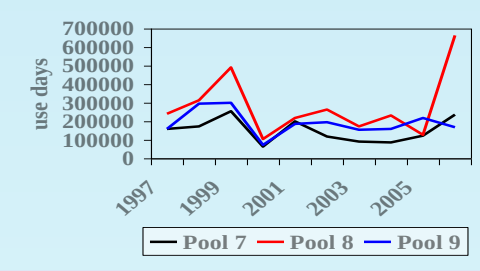
Sediments dry & oxidize, dormant seeds germinate, plants emerge

Vegetation collects sediments and improves water clarity

Clear water helps vegetation persist

Swans eat vegetation

Swans numbers increase



Bird watchers vacation near swans

Tourism $$ increase

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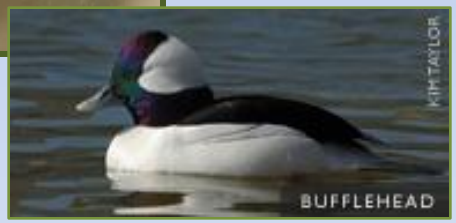
Chosen Indicators

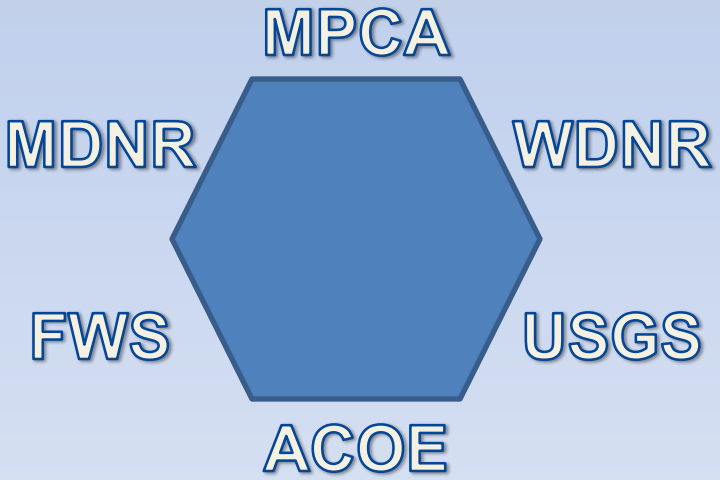
- ✓ Sedimentation
- ✓ Water clarity
- ✓ Vegetation
- ✓ Invertebrates
- ✓ Fish
- ✓ Waterfowl



Project Tasks

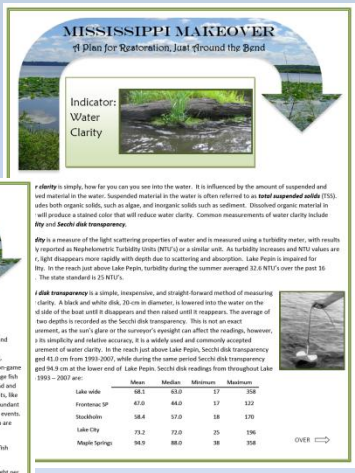
2. Convene technical agencies to develop ways to measure chosen indicators

- ✓ Report known data
- ✓ List all metrics
- ✓ Determine best metrics
- ✓ Recommend targets



Background Info

Provided CAG with fact sheets and background info on certain areas and metrics



Project Tasks

3. Develop quantifiable targets for each indicator

Indicator	Natural Background	Existing	Interim Target	Long Range Target
Water Clarity TSS Secchi Depth	<10 mg/L	47 mg/L 38.5 cm	TBD	TBD
Aq. Vegetation Species Richness		9 species	TBD	TBD
Sedimentation of Lake Pepin	80,000 metric tons/yr	865,600 metric tons/yr	TBD	TBD
Invertebrates Species Richness	41 species	28 species	TBD	TBD

Project Tasks

4. Develop viable restoration activities including land and river management

- ✓ Water Level Mgmt
- ✓ Island Building
- ✓ Rough Fish Removal
- ✓ Land Protection
- ✓ Land Restoration

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Project Tasks

5. Develop TMDL Implementation Plans

- ✓ Environmental Pool Plans
- ✓ Spring Lake Park Preserve Master Plan
- ✓ Watershed Management Plans
- ✓ Wildlife Management Area Plans
- ✓ Mississippi National River & Recreation Area Strategic Plan

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Future Roles for Stakeholder Group?

- Advisors
- Advocates
- Watch Dogs
- Reporters

Mississippi Makeover Project Website/More Info

- www.dakotaswcd.org/wshd_missmak.html
- laura.jester@co.dakota.mn.us